



THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 10/657,582 Confirmation No. 9887
Applicant : Robin G. Skinner
Filed : September 8, 2003
Title : COMPRESSOR DISCHARGE ASSEMBLY
TC/A.U. : 3748
Examiner : Theresa Trieu
Atty. Docket No. : TEC1216
Customer No. : 0832

37 C.F.R. §1.131 DECLARATION OF ROBIN G. SKINNER

I, Robin G. Skinner, declare as follows:

1. A compressor, incorporating the subject matter of all pending claims in the present application, was conceived and reduced to practice prior to October 5, 2001.
2. Said compressor was conceived as early as July 9, 2001. An Invention Disclosure Form documenting said conception is attached hereto. I signed said Disclosure Form on October 3, 2001. At least one witness, David K. Haller, also signed said Disclosure Form on October 3, 2001.
3. Said compressor was assembled on or about July 18, 2001.
4. Said compressor was tested on or about July 22-24, 2001. Two reports documenting said testing are attached hereto, each entitled Tecumseh Products Company Scroll Buildup Sheet and Test Request, and are redacted where appropriate.
5. Components of said compressor are illustrated in drawing EXDISA2405, drawn August 30, 2001. This drawing is attached hereto.
6. All statements made herein are true and that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of any application, or patent issuing therefrom. Further, in accordance with §1746 of Title 28 of the United States Code, I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on: 11-21-2005, 2005.

ROBIN G. SKINNER



TECUMSEH PRODUCTS COMPANY
INVENTION DISCLOSURE

TECUMSEH

DISCLOSURE NO.: C-508

TEC 1216

DATE RECEIVED: _____

INVENTOR (S) (PLEASE PRINT): Robin Skinner

TITLE OF INVENTION: Discharge End Cap and Tube Design for Horizontal Scroll Compressor

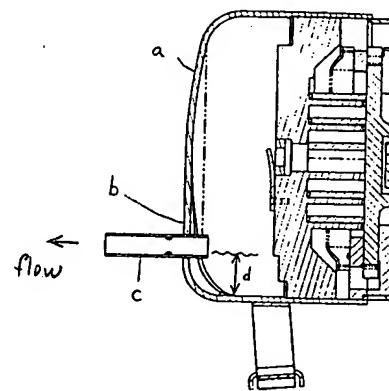
PURPOSE OF INVENTION: Prevention of excessive oil accumulation in the lowest portion of the discharge plenum.

BRIEFLY IDENTIFY THE CLOSEST PREVIOUSLY KNOWN APPROACH TO YOUR INVENTION, AND THE ADVANTAGES WHICH YOUR INVENTION PRESENTS THEREOVER:

Copeland and Hitachi horizontal scrolls.

DESCRIPTION AND SKETCH :

End cap "a" has flat portion "b" for optimum weld or braze to affix discharge tube "c". This tube and flat are located at the lowest region of the periphery, so as oil accumulates to a minimized level "d" it is carried away by the normal discharge vapor flow.



DATE OF CONCEPTION: 7-9-01 CONCEPTION RECORDED IN NOTEBOOK NO.: _____ PAGE: _____

PROJECTED EARLIEST PRODUCTION OR RELEASE DATE: 6/28/02

WITNESSED AND UNDERSTOOD BY:

David K. Miller 10/3/01
John D. B. 10/3/01

Robin M. Skinner

SIGNATURE (S) OF INVENTOR (S)

10-3-2001

DATE OF SIGNATURE (S)

DEPARTMENT & TELEPHONE EXT.

IF THE SUBJECT OF THIS DISCLOSURE HAD BEEN BUILT, PLEASE COMPLETE THE FOLLOWING:

BUILT: / / TESTED: / / RECORDED IN NOTEBOOK NO.: _____ PAGE: _____

FIRST COMMERCIAL USE OR PRODUCTION DATE: / /



TECUMSEH PRODUCTS COMPANY
SCROLL BUILDUP SHEET AND TEST REQUEST

SEND TO Moose FOR SCHEDULING

BUILD UP # : <u>HSC1 001</u>	S / N : <u>700001</u>	DATE : <u>7/22/01</u>											
MODEL : <u>SA9538ZXT</u>	DISPLACEMENT : <u>5.4 in^3</u>	ECN # : <u>240078</u>											
OIL CHARGE : <u>Mobile EAL Artic 32 oz.</u>		REFRIGERANT : <u>R-404</u>											
MOTOR : PCS	VOLTS : <u>200/230</u>	FREQ : <u>60</u>	PHASE : <u>3</u>	RUN. CAP : <u>none</u>									
MANUFACTURER : <u>Paris</u>	MOTOR # : <u>N/A</u>	ROTOR # : <u>R8622</u>	STATOR # : <u>N/A</u>										
RESISTANCE : MAIN :	Ohms	START :	Ohms	COMMON :	Ohms								
IN - LINE FUSE : <u>50</u>	Amps	LRA : <u>N/A</u>	Amps	TRM # : <u>N/A</u>									
<u>OVERLOAD # : HM35</u>													
ASSEMBLY INSTRUCTIONS : <u>ASSEMBLED BY : dev lab</u>			DATE : <u>7/18/01</u>	CODE DATE :									
FIXED SCROLL # : <u>Danfoss Maneurope</u>			ORBITING SCROLL # : <u>Danfoss Maneurope</u>										
AIRGAP MIN : <u>.020</u>	in @	O'CLOCK : <u>_____</u>	AIRGAP MAX <u>.020</u>	in @	O'CLOCK : <u>_____</u>								
<u>Change oil between tests</u>													
<u> </u>													
<u> </u>													
<u> </u>													
<u>PURPOSE OF TEST : Build the first HSC1 compressor</u>													
<u> </u>													
<u>TEST INSTRUCTIONS</u>													
TEST AREA :			<table border="1"><tr><td>INITIALS</td><td>DATE</td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table>			INITIALS	DATE						
INITIALS	DATE												
<u>Run on loadstand at 20/120 F</u>			<table border="1"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table>										
<u>In a few hours remove and inspect scroll sets</u>			<table border="1"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table>										
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<u> </u>													
<u>DISPOSITION AFTER TEST : Hold in Dev Lab</u>													
<u> </u>													
<u>OIL OUT AFTER TEST : _____ Oz</u>													
<u>REMARKS : First build of concept 1 horizontal commercial back scroll</u>													
<u>Ran approx 3 hrs scrolls look good to be</u>													
<u>Rebuilt as is</u>													
<u> </u>													
<u> </u>													
<u> </u>													
<u>REQUESTED BY : R. Skinner 8145</u>													



TECUMSEH PRODUCTS COMPANY
SCROLL BUILDUP SHEET AND TEST REQUEST

C-S

SEND TO Moose

FOR SCHEDULING

BUILD UP # : <u>HSC1 001A</u>	S/N : <u>700001</u>	DATE : <u>7/23/01</u>
MODEL : <u>SA9538ZXT</u>	DISPLACEMENT : <u>5.4 in^3</u>	ECN # : <u>240078</u>
OIL CHARGE : <u>Mobile EAL Artic 32 oz.</u>		REFRIGERANT : <u>R-404</u>
MOTOR: PCS	VOLTS : <u>200/230</u> FREQ : <u>60</u>	PHASE : <u>3</u> RUN. CAP : <u>none</u>
MANUFACTURER : <u>Paris</u>	MOTOR #: <u>N/A</u>	ROTOR #: <u>R8622</u> STATOR #: <u>N/A</u>
RESISTANCE : MAIN : <u>.405</u>	Ohms	START : <u>.490</u> Ohms COMMON : <u>.500</u> Ohms
IN-LINE FUSE : <u>50</u>	Amps	LRA : <u>N/A</u> Amps TRM # : <u>N/A</u>
OVERLOAD # : <u>HM35</u>		
ASSEMBLY INSTRUCTIONS : ASSEMBLED BY : <u>dev lab</u>		DATE : <u>7/18/01</u> CODE DATE :
FIXED SCROLL # : <u>Danfoss Maneurope</u>		ORBITING SCROLL # : <u>Danfoss Maneurope</u>
AIRGAP MIN : <u>.020</u> in @ O'CLOCK : _____		AIRGAP MAX <u>.020</u> in @ O'CLOCK : _____
Change oil between tests		

PURPOSE OF TEST : First cal test of concept 1 horizontal commercial back scroll

TEST INSTRUCTIONS

TEST AREA : 152735 152736

INITIALS	DATE
<u>CB</u>	<u>7/24/01</u>

Cal: 1. Test Misc Spec 4 # 3B.2 / W OCR 152759 _____
2. Tests #3B.6 _____
3. Test # 3A.2 W OCR _____

Note: Watch oil level in sight glass some foam may be present

DISPOSITION AFTER TEST : Hold in Dev Lab

OIL OUT AFTER TEST : _____ Oz

REMARKS : First cal test of concept 1 horizontal commercial back scroll

REQUESTED BY : R. Skinner 8145

TECUMSEH PRODUCTS COMPANY
CALORIMETER DATA SHEET

TEST DOCUMENTATION:

PURPOSE OF TEST: DEVELOPMENT
 TEST DATE: 7/24/01
 ROOM NUMBER: CAL 14
 BILL OF MATERIAL HCS1001A
 COOLING METHOD: (2) 425 CFM FANS
 SERIAL NUMBER: 700001
 CODE DATE: G2301
 PLANT OF MANUFACTURE: DEVEL. LAB
 REFRIGERANT: R-404A
 REQUESTING ENGINEER: R. SKINNER

REPORT NUMBER:
 PROJECT NUMBER: 240078
 MODEL NUMBER: SA9538ZXT
 DISPLACEMENT (CU IN): 5.4
 MOTOR MANUFACTURER TP. CO. PARIS
 MOTOR SPECIFICATIONS: VOLTAGE: 230/200
 PHASE: 3 FREQUENCY: 60
 CUSTOMER NOTIFICATION NUMBER 3B.2
 TEST NUMBER: 152735

TEST MEASUREMENTS:

PRESSESSES: PSIA (kPa)

SUCTION PRESSURE:
 DISCHARGE PRESSURE:
 VAPOR PRESSURE:
 BAROMETRIC PRESSURE:

TEMPERATURES: Deg F (Deg C)

EVAPORATOR TEMP.:
 CONDENSING TEMP.:
 SUPERHEAT TEMP.:
 SUBCOOLING TEMP.:
 SUCTION TEMP.:
 DISCHARGE TEMP.:
 LIQUID INTO EXP VALVE:
 VAPOR OUT OF CAL TANK:
 TEST CHAMBER AMBIENT:

ELECTRICAL MEASUREMENTS:

FREQUENCY:
 COMP. VOLTAGE (AVG.):
 COMP. CURRENT (AVG.):
 COMP. WATTS:
 CALORIMETER WATT-HR:
 WATTMETER CONST. (kH):
 POWER FACTOR (CALC'D):
 VOLTAGE (L1-L2):
 VOLTAGE (L1-L3):
 VOLTAGE (L2-L3):
 CURRENT - PHASE 1:
 CURRENT - PHASE 2:
 CURRENT - PHASE 3:
 MOTOR RPM:

REFRIGERATION RESULTS: Calculations Based on Dew Point Pressures

MASS FLOW RATE (CAL):
 MASS FLOW RATE (MEAS):
 VOLUMETRIC EFFICIENCY:
 CORRECTED CAPACITY:
 EFFICIENCY:
 ISOENTROPIC EFFICIENCY:

DEVIATION ANALYSIS:

DESCRIPTION	NOMINAL	ACTUAL	DEVIATION
COMP. POWER (WATTS):	0.00		0.00%
AVG. COMP. CURRENT (AMPS):	0.00		0.00%
CAPACITY (BTU/HR):	0.00		0.00%
EER (BTUH/WATT):	0.00		0.00%

TEST TIME: 3.75 HOURS (TOTAL)

TEST OPERATOR: MAXWELL

cc: